

## LETTER TO THE EDITOR

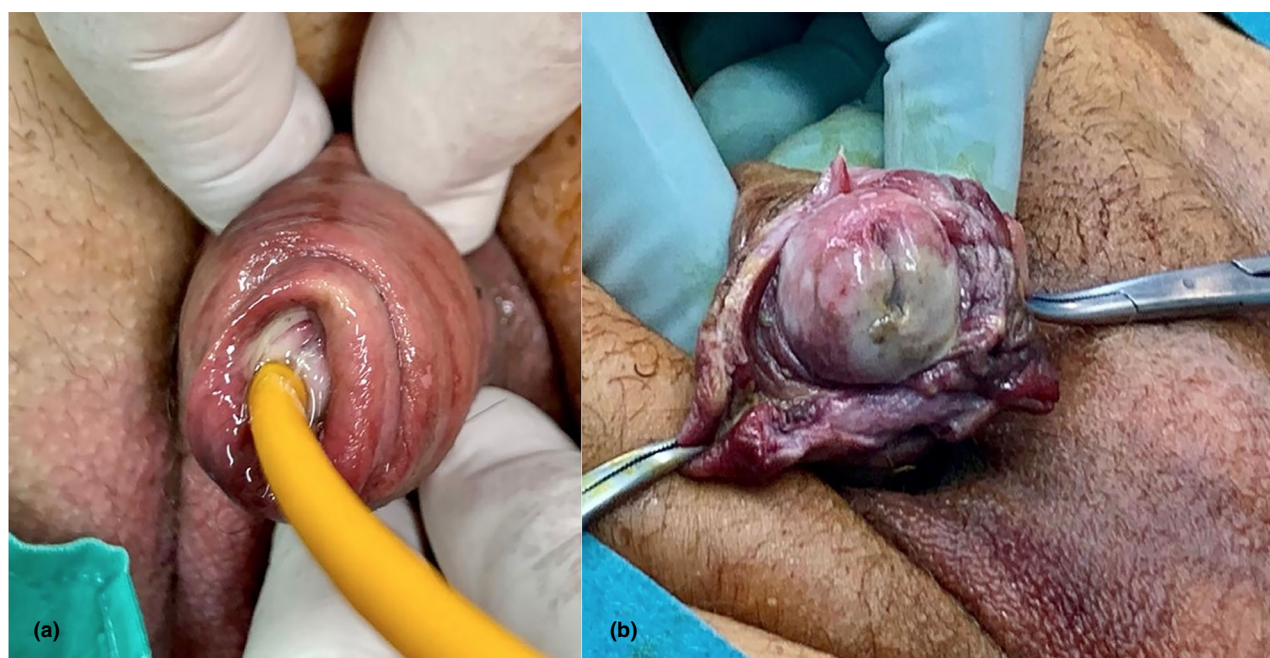
## Penile ischaemia secondary to COVID-19: why should the dermatologist be concerned?

Editor,

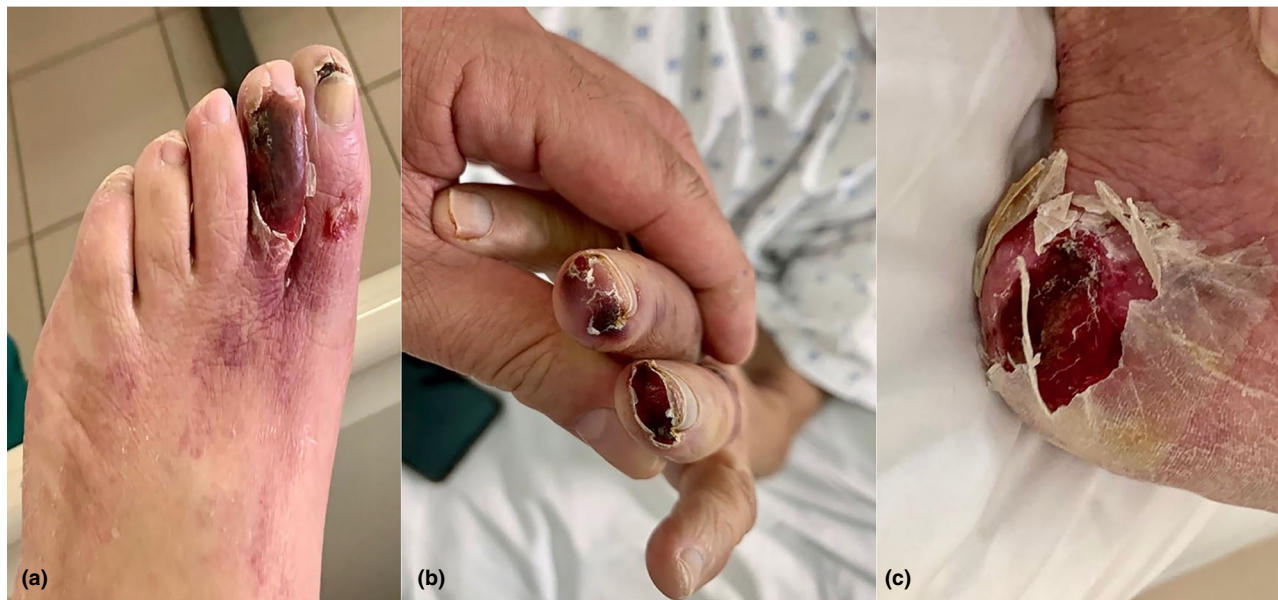
Coronavirus disease-19 (COVID-19) caused by the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) is associated with an increased risk of vasculitis and thrombotic vasculopathy. Dermatologically, this can translate to severe cutaneous manifestations, such as retiform purpura and acral ischaemia.<sup>1</sup> But whether these eruptions are specific to SARS-CoV-2 infection is yet to be determined.<sup>2,3</sup> An in-depth understanding and an elaborate characterization of these skin findings are therefore needed, as they can provide more insight into the physiopathology of this disease and define the role that dermatologists can play amid this pandemic.

To this extent, we herein report the case of a 58-year-old man with a history of type 2 diabetes, hypertension and terminal chronic kidney disease undergoing haemodialysis, presenting to the emergency department for acute penile pain. On physical

examination, a retracted penis with phimosis and glans discoloration was noted (Fig. 1). A penile Doppler ultrasound confirmed the diagnosis of penile ischaemia. On further questioning, the patient reported the progressive appearance of ischaemic changes and necrotic lesions on the fingers (Fig. 2a), heels (Fig. 2b) and toes (Fig. 2c) compatible with acral pernio-sis; the advent of these skin findings preceded the chief complaint in a couple of days. A real-time reverse-transcription polymerase chain reaction test for SARS-CoV-2, performed from a nasopharyngeal swab, yielded negative results; however, the patient admits of having been in contact with a confirmed COVID-19-infected person. This, combined with ground-glass opacities found on the patient's thoracic CT scan, was in favour of a recent COVID-19 infection, albeit the PCR's negative results. A posthectomy that involved the debridement of the ischaemic tissue was performed. Pathological assessment of the penile surgical specimen showed necrotic tissue, as well as microvascular thrombosis and leucocytic infiltration of the vascular walls. In the hypothesis of antiphospholipid antibodies syndrome, serologic testing was done, and it did not show any antibodies. Due to the lack of consensus on the treatment of



**Figure 1** Phimosis and ischaemia of the glans penis, both clinical signs of penile ischaemia, are observed before (a) and after (b) posthectomy.



**Figure 2** Acro-ischaemic lesions are seen on the fingers (a), heels (b) and toes (c).

perniosis, antiplatelet therapy and oral analgesics were administered.<sup>4</sup> Topical treatments were not given.

This is to the best of our knowledge the first reported case of penile ischaemia associated with COVID-19 infection. The combined cutaneous and penile presentation can give us more evidence of the physiopathology of this disease. First, it underlines the severe hypercoagulability and thrombotic tendency observed in COVID-19, since penile ischaemia is a rare complication owing to its rich collateral vascularization.<sup>5</sup> This clinical scenario is similar to the one reported by del Giudice *et al.*<sup>6</sup> in your journal, further supporting the author's assumption that acro-ischaemic lesions could be the consequence of the malignant synergy of the vasculitis and severe coagulopathy observed in COVID-19.<sup>7</sup> Secondly, the perniosis-like lesions appeared distant to the initial phase of SARS-CoV-2 infection; we might hypothecate that our findings represent a late and indirect manifestation of this disease. Finally, our patient had undetectable antiphospholipid antibodies, which counter the proposition advanced by Zhang *et al.* that these antibodies are the source of coagulopathies in COVID-19.<sup>8</sup>

On another note, this case highlights the considerable role dermatologists have in this pandemic. Our patient's acral necrosis preceded penile ischaemia, making skin necrosis the first reflection of the ongoing thromboinflammatory process due to COVID-19. And because of the prevalence of dermatological manifestations in infected patients (reported as high as 20.4%<sup>9</sup>), dermatologists must be actively involved in patients' care and follow-up during this outbreak. With the current need for self-isolation and social distancing, teledermatology should therefore come to the fore to provide patients ongoing access to

dermatologic care, including those with confirmed or suspected of having COVID-19.<sup>10</sup>

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### Consent

The patients in this manuscript have given written informed consent to publication of their case details.

### Conflict of Interests

The authors have no relevant affiliations or financial involvement with any organization or entity with a financial interest in or financial conflict with the subject matter or materials discussed in the manuscript.

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